

Computer Mouse with Pencil Grip.

The invention *computer mouse with pencil grip* refers to a computer mouse, which is used as a pointing tool in connection with the use of a personal computer (PC).

A steadily increasing number of people suffer from repetitive stress injuries in arm, shoulder and/or the neck region as a consequence of using a computer mouse in connection with the use of a PC/computer. In addition to causing suffering and problems for the user, these repetitive stress injuries result in economic losses for companies and society. One of the main reasons for why so many people get repetitive stress injuries when using a computer mouse, is the ergonomic design(s) of the state of the art computer mouse. The use of a computer mouse requires finely tuned movements. The design of a traditional computer mouse is such that controlling it requires using parts of the arm muscles, which are developed for more coarsely tuned movements. This results in a consistent high muscle tension (static muscle movement), not only in the part of the arm conducting the movement itself, but also in the adjacent muscles in the arm, shoulder and neck. The reason for this is the need to stabilise the movements so that necessary precision is obtained. This applies both to the traditional computer mouse, where the palm of the hand partly covers the computer mouse and the right and left mouse buttons are controlled by the pointing- and mid finger, respectively, and for computer mice with "joystick" or "pistol grip" design.

There is currently one known computer-pointing device (US 5 343 594) which is controlled by way of a pencil grip. This computer-pointing device does, however, have one operational weakness in that it cannot stand in an operative position when it is not in use. It either has to be picked up from the surface (desk) or from a holding device, and then be placed in an operative position before the user can resume working.

*Computer mouse with pencil grip*, according to the invention, combines the ergonomic benefits of the pencil grip with the operational benefits of the traditional computer mouse in that it is constantly in an operative position, as specified in claim 1. This is obtained, according to the invention, by adding a pencil-like shaft with control buttons to the posterior part of the body of the traditional mouse. *Computer mouse with pencil grip* therefore stands in an operative position with the pencil shaft tilted slightly backwards in relation to the body of the mouse also when it is not being operated. With *computer mouse with pencil grip* according to the invention, the user can, in a similar manner as when using a traditional computer mouse, swiftly and easily change between operating the computer keyboard and the computer-pointing device. The invention is otherwise based on known technology used in other types of computer-pointing devices.

An example of a possible design of *computer mouse with pencil grip* according to the invention is shown in Figure 1., seen straight from the front and from the side.

The control buttons (1) and (2) on the *computer mouse with pencil grip* are placed on the lower part of the pencil shaft (3), which is placed on the posterior part of the mouse body (4) and tilted slightly backwards. This enables the *computer mouse with pencil grip* to be operated by a normal pencil grip.

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*Computer mouse with pencil grip* is designed in such a way that it stands in an operative position when not in use. This enables a swift and easy change for the user in operating the computer keyboard and the computer-pointing device.

*Computer mouse with pencil grip* thus combines the ergonomic benefits of the pencil grip with the operational benefits of the traditional computer mouse in that it is in an operative position also when not in use.

*Computer mouse with pencil grip* can also be supplied with other control buttons, for example a so-called scroll function, by which the screen can be rolled upwards, downwards or sideways.

*Computer mouse with pencil grip*, according to the invention, is operated by holding the mouse in a normal pencil grip around the pencil shaft (3) and moving it around on a mouse pad in the same manner as when using a traditional computer mouse. The technology which controls the movement of the pointing device on the screen, can be the same as in a traditional computer mouse or similar technology. Signal transmission from *computer mouse with pencil grip* to the computer can be conducted in a similar manner as with a traditional computer mouse via a cord or by using technology for cordless signal transmission.

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